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PATENT  
Attorney Docket 044508-5003

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: **Michael J. Daly et al.**

Application No. **10/089,175**

Filed: **March 27, 2002**

For: **Engineered radiation resistant bioremediating  
bacteria**

Group Art Unit: **1652**

Examiner: **Not Assigned**

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**SECOND INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. 1.97(b)**

Pursuant to 37 C.F.R. 1.56 and 1.97(b), Applicants brings to the attention of the Examiner the documents listed on the attached PTO-1449. This Information Disclosure Statement is being filed, to the best of the undersigned's knowledge, before the mailing date of a first Office Action on the merits for the above-referenced application. Accordingly, Applicants do not believe that a fee is due with the filing of this paper. Copies of the listed documents are attached.

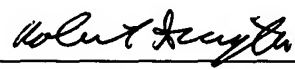
Applicants respectfully request that the Examiner consider the listed documents and evidence that consideration by making appropriate notations on the attached form. This submission does not represent that a search has been made or that no better art exists and does not constitute an admission that each or all of the listed documents are material or constitute prior art. If the Examiner applies any one of the documents as prior art against any claim in the application, and Applicants determine that the cited document does not constitute prior art under United States law, Applicants reserve the right to present to the office the relevant facts and law regarding the appropriate status of such document.

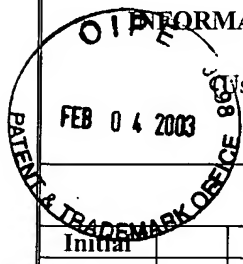
Applicants further reserve the right to take appropriate action to establish the patentability of the disclosed invention over the listed documents, should one or more of the documents be applied against the claims of the present application.

**Except** for issue fees payable under 37 C.F.R. 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 50-0310. This paragraph is intended to be a **constructive petition for extension of time** in accordance with 37 C.F.R. 1.136(a)(3).

Dated: **February 4, 2003**  
Morgan, Lewis & Bockius LLP  
Customer No. **09629**  
1111 Pennsylvania Avenue  
Washington, D.C. 20004  
202-739-3000

Respectfully submitted  
**Morgan, Lewis & Bockius LLP**

  
Robert Smyth  
Registration No. 50,801



## INFORMATION DISCLOSURE CITATION

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PTO Form 1449

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Applicants: Michael J. Daly *et al.*

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## U.S. PATENT DOCUMENTS

Initial	Document No.	Date	Name	Class	Sub-Class	Filing Date

## FOREIGN PATENT DOCUMENTS

Document No.	Date	Country	Class	Sub-Class	Translation

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

aa	Barrineau <i>et al.</i> (1984) The DNA sequence of the mercury resistance operon of the IncFII plasmid NR1, Molec. Appl. Genet. 2:601-619
ab	Daly <i>et al.</i> (1994) In vivo damage and recA-dependent repair of plasmid and chromosomal DNA in the radiation-resistant bacterium <i>Deinococcus radiodurans</i> , J. Bacteriol. 176:3508-3517
ac	Daly <i>et al.</i> (1994) Interplasmidic recombination following irradiation of the radioresistant bacterium <i>Deinococcus radiodurans</i> , J. Bacteriol. 176:7506-7515
ad	Daly <i>et al.</i> (1995) Interchromosomal recombination in the extremely radioresistant bacterium <i>Deinococcus radiodurans</i> , J. Bacteriol. 177:5495-5505
ae	Daly <i>et al.</i> (1995) Resistance to radiation, Science 270:1318
af	Daly <i>et al.</i> (1996) An alternative pathway of recombination of chromosomal fragments precedes recA-dependent recombination in the radioresistant bacterium <i>Deinococcus radiodurans</i> , J. Bacteriol. 178:4461-4471
ag	Daly <i>et al.</i> (1997) Recombination between a resident plasmid and the chromosome following irradiation of the radioresistant bacterium <i>Deinococcus radiodurans</i> , Gene 187:225-229
ah	Diels <i>et al.</i> (1995) The <i>czc</i> operon of <i>Alcaligenes eutrophus</i> CH34: from resistance mechanism to the removal of heavy metals, J. Ind. Microbiol. 14:142-153
ai	Gibson <i>et al.</i> (1970) Incorporation of oxygen-18 into benzene by <i>Pseudomonas putida</i> , Biochemistry 9:1631-1635
aj	Hamlett <i>et al.</i> (1992) Roles of the Tn21 <i>merT</i> , <i>merP</i> , and <i>merC</i> gene products in mercury resistance and mercury binding, J. Bacteriol. 174:6377-6385
ak	Ji <i>et al.</i> (1992) Regulation and expression of the arsenic resistance operon from <i>Staphylococcus aureus</i> plasmid pI258, J. Bacteriol. 174:3684-3694
al	Kobal <i>et al.</i> (1973) X-ray determination of the absolute stereochemistry of the initial oxidation product formed from toluene by <i>Pseudomonas putida</i> 39-D, J. Am. Chem. Soc. 95:4420-4421
am	Lange <i>et al.</i> (1997) Oxidation of aliphatic olefins by toluene dioxygenase: enzyme rates and product identification, J. Bacteriol. 179:3858-3865
an	Li <i>et al.</i> (1992) Trichloroethylene oxidation by toluene dioxygenase, Biochem. Biophys. Res. Commun. 185:443-451
ao	Lovely (1995) Bioremediation of organic and metal contaminants with dissimilatory metal reduction, J. Ind. Microbiol. 14:85-93

Examiner

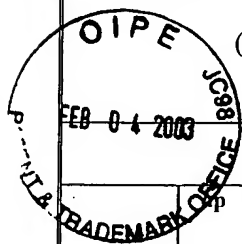
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<b>INFORMATION DISCLOSURE CITATION</b> (Use several sheets if necessary)		Attorney Docket 044508-5003	Application No. 10/089,175
PTO Form 1449		Applicants: Michael J. Daly <i>et al.</i>	Page 2 of 2
		Filing Date: March 27, 2002	Group Art Unit: 1652
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)</b>			
	p	Minton (1994) DNA repair in the extremely radioresistant bacterium <i>Deinococcus radiodurans</i> , Mol. Microbiol. 13:9-15.	
	aq	Minton (1996) Repair of ionizing-radiation damage in the radiation resistant bacterium <i>Deinococcus radiodurans</i> , Mutat. Res. 363:1-7	
	ar	Mosely <i>et al.</i> (1983) Isolation and properties of strains of Micrococcus (Deinococcus) radiodurans unable to excise ultraviolet light-induced pyrimidine dimers from DNA: evidence for two excision pathways, J. Gen. Microbiol. 129:2437-2445	
	as	Nies <i>et al.</i> (1995) Ion efflux systems involved in bacterial metal resistances, J. Ind. Microbiol. 14:186-199	
	at	Rainey <i>et al.</i> (1997) Phylogenetic diversity of the deinococci as determined by 16S ribosomal DNA sequence comparison, Int. J. Syst. Bacteriol. 47:510-514	
	au	Schottel (1978) The mercuric and organomercurial detoxifying enzymes from a plasmid-bearing strain of Escherichia coli, J. Biol. Chem. 253:4341-4349	
	av	Smith <i>et al.</i> (1988) Duplication insertion of drug resistance determinants in the radioresistant bacterium <i>Deinococcus radiodurans</i> , J. Bacteriol. 170:2126-2135	
	aw	Tsapin <i>et al.</i> (1996) Purification and properties of a low-redox-potential tetraheme cytochrome c3 from <i>Shewanella putrefaciens</i> , J. Bacteriol. 178:6386-6388	
	ax	Turner <i>et al.</i> (1995) Cyanobacterial metallothioneins: biochemistry and molecular genetics, J. Ind. Microbiol. 14:119-125	
	ay	Voordouw <i>et al.</i> (1986) Cloning and sequencing of the gene encoding cytochrome c3 from Desulfovibrio vulgaris (Hildenborough), Eur. J. Biochem. 159:347-351	
	az	Wackett <i>et al.</i> (1988) Degradation of trichloroethylene by toluene dioxygenase in whole-cell studies with <i>Pseudomonas putida</i> F1, Appl. Environ. Microbiol. 54:1703-1708	
	ba	Wackett <i>et al.</i> (1989) Survey of microbial oxygenases: trichloroethylene degradation by propane-oxidizing bacteria, Appl. Environ. Microbiol. 55:2960-2964	
	bb	Wackett <i>et al.</i> (1994) Metabolism of polyhalogenated compounds by a genetically engineered bacterium, Nature 368:627-629	
	bc	Wackett (1997) Biocatalysis, biodegradation and bioinformatics, J. Ind. Microbiol. Biotechnol. 19:350-354	
	bd	White <i>et al.</i> (1999) Genome sequence of the radioresistant bacterium <i>Deinococcus radiodurans</i> R1, Science 286:1571-1577	
	be	Zylstra <i>et al.</i> (1989) Toluene degradation by <i>Pseudomonas putida</i> F1. Nucleotide sequence of the todC1C2BADE genes and their expression in Escherichia coli, J. Biol. Chem. 264:14940-14946	
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